

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Art Unit: 2623

Kenneth L. Levy

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Examiner: U. Raman

Date: April 21, 2008

**REPLY BRIEF**

COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

Appellants respectfully request the Board of Patent Appeals and Interferences (hereafter the “Board”) to reverse the outstanding final rejection of the pending claims.

This Reply Brief is responsive to the Examiner’s Answer mailed February 21, 2008.

**TABLE OF CONTENTS**

TABLE OF CONTENTS	2
GROUND OF REJECTION TO BE REVIEWED ON APPEAL	3
REPLY	3
• <i>The examination of claim 20 has not followed the established framework for applying the statutory language of §103.</i>	4
• <i>The Examiner's Answer fails to give each claim limitation its due weight.</i>	5
• <i>The Examiner's Answer suggests that impermissible hindsight was used when crafting its rejection.</i>	6
• <i>One of ordinary skill in the art would not read the Kunkel patent to extract tags from data representing picture or audio portion of the received content.</i>	7
CONCLUSION AND REQUEST FOR REVERSAL	8

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Claims 20-28 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,961,603 (hereafter referred to as “the Kunkel patent” or simply “Kunkel”) in view of U.S. Patent No. 5,822,432 (hereafter referred to as “the Moskowitz patent” or simply “Moskowitz”).

**REPLY*****Rejections under U.S.C. 103(a) over the Kunkel patent in view of the Moskowitz patent***Claims 20-25

Independent claim 20 recites:

20. *An interactive television system for distributing content including an identifier, said system comprising:*

*a cable head end to receive the content, the content including an embedded digital watermark comprising an identifier, said cable head end comprising:*

*a digital watermark detector to extract the identifier from data representing picture or audio portions of the received content;*

*a bridge to communicate the extracted identifier to a database, the database including a trigger indexed according to the identifier, said bridge to receive a corresponding trigger identified in the database as corresponding to the identifier; and*

*an inserter communicating with said bridge to insert the trigger into the received content.*

*The examination of claim 20 has not followed the established framework for applying the statutory language of §103.*

The Examiner's Answer states that "further explicit analysis of demands known to the design community or present in the market place and the place and background knowledge possessed by a person having ordinary skill in the art" is **not** necessary. *Please see the Examiner's Answer, page 11, last 2 lines – page 12, line 2.*

This type of examination cuts against the framework set forth in *KSR Int'l Co. v. Teleflex, Inc.*

*In Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Court set out a framework for applying the statutory language of §103.... This language is objective: 'Under §103, the scope and content of the prior art are to be determined; difference between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved....'

*KSR*, slip op., page 2, citing *Graham* at 383 US 1, 17-18 (*underlining added*).

Moreover, the *KSR* framework should include an explicit §103 analysis: "To facilitate review, this analysis should be made explicit." *Please see KSR*, slip op., page 14.

Appellant presented positions regarding one of ordinary skill in the art in their Appeal Brief. (*Please see, e.g., Appellant's Appeal Brief*, page 7, lines 14-16: "We respectfully submit that one of ordinary skill in the art would not modify Kunkel with Moskowitz as suggested, and may not even possess the required skill level to do so."). We request that this and other statements concerning the level of skill be given due consideration, particularly since the Examiner's Answer refused to explore the level and background of one of ordinary skill in the art.

*The Examiner's Answer fails to give each claim limitation its due weight.*

It appears that the Examiner's Answer does not give due consideration to the recited "watermarking" features. For example, the Examiner's Answer states: "[s]ince Moskowitz is relied upon for the mere teaching of watermarking relevant content for providing support for a particular content, wherein watermarking principles were well known in the art at the time of the invention..."<sup>1</sup> Please see the Examiner's Answer, page 11, lines 17-19 (emphasis added).

Watermarking is not *merely* used in claim 20; indeed, digital watermarking is interwoven throughout claim 20. For example, claim 20 recites a cable head end to receive the content, the content including an embedded digital watermark comprising an identifier, said cable head end comprising: a digital watermark detector to extract the identifier from data representing picture or audio portions of the received content; a bridge to communicate the extracted identifier to a database, the database including a trigger indexed according to the identifier, said bridge to receive a corresponding trigger identified in the database as corresponding to the identifier.

The reasoning in the Examiner's Answer cuts against well established examination principles. Indeed, it is elementary that to support an obviousness rejection all words in a claim must be considered in judging the patentability of that claim against the prior art. Please see, e.g., *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970).

Digital watermarking is integral to claim 20. As such, we ask the Board to consider our positions regarding the impropriety of combining Kunkel with digital watermarking techniques (please see our Appeal Brief, pages 6-8), particularly in light of the Examiner's Answer suggesting that Moskowitz is cited for the mere teaching of watermarking.

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<sup>1</sup> This statement seems confusing at best. For example, it is unclear what "providing support for a particular content" has to do with the claimed combination. Please see claim 20 at page 3 of this Reply Brief for how digital watermarking is interwoven into the claim.

*The Examiner's Answer suggests that impermissible hindsight was used when crafting its rejection.*

The Examiner's Answer uses Appellant's summary of the invention as justification to craft its obviousness objection; and this amounts to impermissible hindsight. For example, the Examiner's Answer on page 11, lines 3-6 (citing Appellant's specification at paragraph 9), states that Appellant's disclosure corroborates using watermarks in content to provide relevant information. Paragraph 9 states:

[0009] Digital watermark technology, however, may be extended to provide additional data (e.g., serve as a data channel) in an iTV system, sometimes referred to as the trigger. If the system relies on a consumer's set-top box (STB) or other computer to perform some of the system processing, the watermark processing operations can likewise be performed by the STB (or computer). Existing iTV systems can be modified to utilize a digital watermark communications channel by providing the requisite digital watermark processing function at a suitable layer in known iTV stack architectures. (*emphasis added*).

Yet paragraph 9 provides a summary involving one embodiment of Appellant's invention, providing an overview of how digital watermarking could be used (or "extended" or "modified"). This is not a corroboration of Moskowitz; it is a summary statement of invention. Indeed, the Examiner's Answer appears to use Appellant's summary as a guide to support its rejection.

Thus, we submit that the stated reasoning assumes knowledge of the invention, rather than establishing reasons, need or market pressure to make the claimed arrangement. (The Examiner's Answer contradicts itself in this regard. *Please see*, page 11, lines 3-6 vs. page 13, lines 9-10). Thus, the reasoning is improper and reflects "the distortion caused by hindsight bias." *Please see KSR*, slip op. at 17.

*One of ordinary skill in the art would not read the Kunkel patent to extract tags from data representing picture or audio portion of the received content.*

In claim 20, digital watermarking carries data through slight changes to data representing picture or audio portions. *Please see* Claim 20 on page 3 of this Reply Brief; *see also* the specification at paragraph [0007].<sup>2</sup> More specifically, in claim 20, *a digital watermark detector extracts an identifier from data representing picture or audio portions of received content.* As one of ordinary skill in the art will appreciate, this type of signaling is also referred to as “in-band” data carrying. *Please see* the specification, paragraph [0007]. The Examiner’s Answer points to the Kunkel patent at Col. 5, lines 36-43, to show that Kunkel’s signals can be “in-band”. *Please see* the Examiner’s Answer, page 8, last paragraph. We disagree. This Col. 5 passage recites:

*In the case of analog television signals, this can be accomplished by inserting the ID tag in the vertical blanking interval (VBI) of the signal, or by inserting the tag in either the audio or live video stream. For digital communications, such as those based on MPEG II format, for example, the ID tag data may be periodically (e.g., approximately once every second) inserted in a data stream associated with the particular video and audio data stream.*

We respectfully submit that Kunkle’s “inserting” ID tag into an audio or video stream does not disclose changing or modifying picture or audio portions of content, as with the recited digital watermarking. For example, a more appropriate interpretation of this passage includes

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2 Paragraph [0007] recites: “Much work has been done in recent years in the field of video digital watermarking – the science of conveying data through slight changes to the video information presented to the viewer (“in-band”). The changes are preferably slight as to be imperceptible to the viewer, yet can be recovered by suitable signal processing. Illustrative techniques are shown in the assignee’s U.S. Patent No. 6,122,403 and U.S. Application Nos. 09/138,061 and 09/164,859, and in patent documents WO99/45705, WO 00/04722, each of which are hereby incorporated by reference. Of course, other techniques can be used to steganographically embed data within a video signal. Such embedding techniques are suitably interchangeable with the present invention.”

one where the ID tags are inserted as if in a VBI, e.g., placing the tags in header data or in another information channel. There is no disclosure of changing audio or video content in the cited Kunkel passages.

Further, there is no disclosure in Kunkel suggesting that such insertions be “imperceptible” in audio or video content as is implicit with the claimed digital watermarking.

We respectfully request reversal of the final rejection of claims 20 and 26.

### **CONCLUSION AND REQUEST FOR REVERSAL**

Appellants respectfully request the Board to reverse the final rejection of the pending claims.

Date: April 21, 2008

Customer No. 23735

Telephone: 503-469-4685

FAX: 503-469-4777

Respectfully submitted,

DIGIMARC CORPORATION

By: /Steven W. Stewart, Reg. No. 45,133/  
Steven W. Stewart  
Registration No. 45,133